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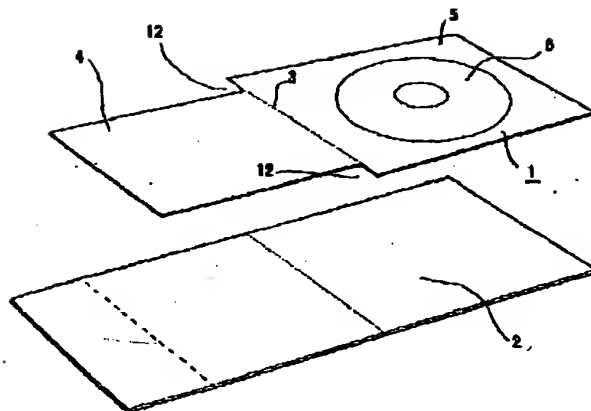
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TITLE : RECORDING MEDIUM DISK STORAGE



ABSTRACT : **PROBLEM TO BE SOLVED:** To prevent an interior of a door or an accessory from sticking to an adhesive face even if a disk is removed by fixing a protection sheet which can come into contact with and farther away from the adhesive face of a disk adhesion-holding layer.

SOLUTION: A disk adhesion-holding layer 6 comprising a smooth silicone resin layer is laminated on a surface on a side of a disk storage 5 in a form slightly smaller than a disk, wherein adhesion of the surface causes the disk to be detachably adhered. Since adhesion between the disk and the disk adhesion-holding layer 6 is vacuum suction, the disk hardly comes off from the storage 5. When the disk is removed, an adhesive face of the layer 6 is exposed, so that a cover or an accessory with a smooth face may be adhered if in contact. However, since a protection sheet 4 is fixed to a substrate 1, the protection sheet 4 is to be reliably positioned immediately on the adhesive face even if the storage is closed without a disk received, and the cover 2 or the accessory may not adhere to it.

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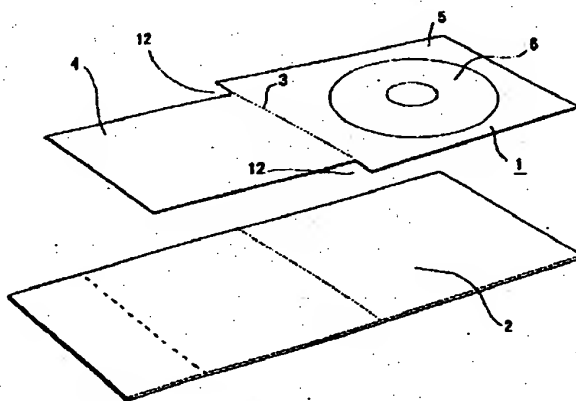
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(54) 【発明の名称】 記録媒体ディスク収納体

(57) 【要約】

【目的】 密着保持式ディスク収納体の密着部の保護を目的とする。

【構成】 ディスク密着保持層を積層したディスク収納部を有す記録媒体ディスク収納体に、上記ディスク密着保持層の密着面と接離自在な保護シートを固定した。



【特許請求の範囲】

【請求項1】 扉部と、ディスク密着保持層を積層したディスク収納部が開閉自在な記録媒体ディスク収納体に、上記ディスク密着保持層の密着面と接離自在な保護シートを固定したことを特徴とする記録媒体ディスク収納体。

【請求項2】 上記保護シートの、密着面との対向面側をディスクの信号記録面と同様の平滑度したことを特徴とする請求項1記載の記録媒体ディスク収納体。

【請求項3】 上記保護シートの密着面との対向面側を密着低減処理したことを特徴とする請求項1記載の記録媒体ディスク収納体。

【請求項4】 上記保護シートの密着面との対向面の裏面または扉部に、ディスクの記録内容に関する情報が印刷された付属体の収納部を配置したことを特徴とする請求項1ないし3に記載の記録媒体ディスク収納体。

【請求項5】 基板に谷折り部を形成し、谷折り部を中心として折りたたみ自在とするとともに、上記基板の谷折り部を境にしていずれか一方にディスク密着保持層を積層しディスク収納部とし、他方に密着低減処理をしたことを特徴とする記録媒体ディスク収納体。

【請求項6】 少なくとも一面を密着低減処理した基板の該一面側に谷折り部を形成し、谷折り部を中心として折りたたみ自在とするとともに、上記基板の一面側の谷折り部を境にしていずれか一方にディスク密着保持層を積層しディスク収納部としたことを特徴とする記録媒体ディスク収納体。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】この発明は、コンパクトディスク、ミニディスク、CD-ROM、DVD、レーザーディスク等の記録媒体ディスクを販売、保管するのに好適な記録媒体ディスク収納体に関する。

【0002】

【従来の技術】従来、コンパクトディスクのような記録媒体ディスクの収納体は、プラスチックケース製の本体にヒンジ機構によって回動自在に連結された扉と、前記本体にはめ込まれるディスク収納用トレイとからなっている。扉の内側には、収納体に記録された音楽や情報に関する資料、例えば歌詞カードなどが保持できるようにタブが形成される。

【0003】このような従来の収納容器は、ディスクの保持のための保持部がトレイに形成されるため、その分本体が厚くなり携帯性、保管性に欠点があった。そこでこのような欠点を解消するために、特開平10-35767号公報に示すような記録媒体ディスク収納体が発明されている。

【0004】

【発明が解決しようとする課題】この従来発明では、上記ディスク保持部の代わりにシリコン樹脂層の密着性

を利用したものであり、従来に比べ、薄く、軽量で扱いやすいという長所があるものの、密着性を利用しているため、ディスクを外した際に、この密着面が外部に露呈することになり、ディスクのない状態で収納体を閉じると、密着面と扉の内側が貼り付き開閉操作がスムーズに行えない欠点がある。

【0005】この欠点を解消するために上述の公報に示したものは必要に応じて剥離紙を着脱自在に貼り付けるようにしているが、必要の都度、剥離紙を着脱させるのは非常に面倒であり、また剥がした剥離紙の一時保管場所がなく、紛失する虞も高い。

【0006】また上記収納体に歌詞カードのような付属体を同封すると歌詞カードと露呈した密着面が貼り付きやすく、場合によっては歌詞カードを破損することもありえる。

【0007】

【発明の目的】この発明は、以上のような欠点を解消するために、ディスク密着保持層を積層したディスク収納部を有する記録媒体ディスク収納体に、上記ディスク密着保持層の密着面と接離自在な保護シートを固定したものである。

【0008】このようにすることで、ディスクを外した状態でも密着面を保護シートが覆うので、扉の内側や歌詞カードのような付属物が密着面に貼り付くことがない。また保護シートと基板は一体的であるので、相対的な位置ずれがなく、保護シートを閉じると確実に密着面を覆うことが出来、従来のような別体の剥離紙を使用するのに比べ格段に扱いやすく保護シートの紛失の虞もない。そして、この保護シートにより密着面へのごみの付着や傷つきなどが防止される。

【0009】なおこの保護シートは密着面との対向面側は平滑な面であれば、ディスクを外した時に保護シートと密着面が密着し、密着面への外部からの埃などの侵入防止に役立つ。そしてこの対向面側の平滑度をディスクの信号記録面とほぼ同様にすれば、密着面に対し剥がす操作感がディスクと保護シートで近似し、使用者に違和感がなくなる。さらには保護シートをこしのある厚みにすれば、密着面から剥がす際の貼りつき感が軽減される。

【0010】また上記保護シートの密着面との対向面側を密着低減処理すると、ディスクを外した時と、ディスクが密着している時で保護シートと密着面側の接離操作に違和感がなく、例えば再度ディスク8を密着面に密着させる際に保護シートと密着面の貼り付きがないのでスムーズの密着面を露呈させることが出来る。

【0011】また請求項4にかかる発明は、上記保護シートの密着面との対向面の裏面または扉部に、ディスクの記録内容に関する情報が印刷された付属体の収納部を配置したので、歌詞カードのような付属体が密着面に貼り付き、破損するようなことを確実に防止出来る。

【0012】また請求項5にかかる発明では、基板に谷折り部を形成し、谷折り部を中心として折りたたみ自在とするとともに、上記基板の谷折り部を境にしていずれか一方にディスク密着保持層を積層しディスク収納部とし、他方に密着低減処理をしたことを特徴とする。このようにすると、扉の内側にディスク密着面が貼り付かない効果に加え、ディスク収納部と密着低減部が同一の基板で形成されるので、製作コストを大幅に削減出来るだけでなく、全体の形状を非常に薄く軽いものとする事が出来る。

【0013】さらに請求項6にかかる発明では、少なくとも一面を密着低減処理した基板の該一面側に谷折り部を形成し、谷折り部を中心として折りたたみ自在とするとともに、上記基板の一面側の谷折り部を境にしていずれか一方にディスク密着保持層を積層しディスク収納部としたことを特徴とする。

【0014】このようにすると、上記効果に加え更に、基板に対し一括して密着低減処理が可能で全体の製作工程を効率化することが可能となる。又素材的に密着性の低いものを用いれば単にディスク密着保持層を積層するのみで製品を完成させることが出来る。

【0015】

【発明の実施の形態】以下この発明の実施例を図面に基いて説明する。図1はこの発明に係るディスク収納体の分解斜視図であり、基台1とカバー部2の周端部を溶着や接着などの係合手段で接合して完成する。

【0016】基板1はポリプロピレン、PET、ポリカーボネート、塩化ビニール、アクリル板、ABSのような合成樹脂や紙、木、金属などの材質をシート状に形成しており、中央の谷折り部3を境に一方が保護シート4、他方をディスク収納部5として構成する。この実施例では基板1はポリプロピレン製で、表面がブラスト・エンボス等の手段で粗面にしており密着性を低くする処理が採られている。なおこの発明で言う密着低減処理とは、素材の表面を粗面にするなどの後工程による処理の他、もともと表面が密着性の少ない素材を採用すること等も含まれる。

【0017】また本実施例では基板全体を単一の表面処理をした単一材料としているので製作コストが低減出来るが、保護シート4側のみ密着低減処理を請じても良い。このようにすると、後述するディスク収納部5側の積層処理が簡単に行える。

【0018】ディスク収納部5側の表面には表面が平滑なシリコン樹脂層からなるディスク密着保持層6がディスクの外形よりやや小さなドーナツ形状で積層されており、この表面の密着力によりディスクが着脱自在に密着される。この実施例では基板を単一の材料で単一の表面処理をしているため、ディスク収納部側においても基板表面は粗面処理のままなので、ディスク密着保持層6を積層しやすいうに積層箇所のみプライマー処理を行

っている。この処理は詳しくは積層箇所をプライマー処理し均一に仕上げて熱処理又は自然乾燥する。

【0019】基板1の保護シート4側は上下方向が切り欠かれディスク収納部5側に比べ狭く形成されており、この切り欠き12により基板1とカバー部2の接合は、保護シート4に邪魔されることなく一括にて可能となる。(図2参照)

【0020】扉部10には歌詞カードのようなディスクに記録された内容に関する情報の印刷された付属体9が収納される付属体収納部7が形成されている。この付属体収納部7はカバー部2の端部を折り返して、基板1とカバー部2を接合する際に同時に形成するようにすれば良い。

【0021】形成された付属体収納部7は扉部10側のみに付属体9を配置させてもよいが、図2に示すように基板1とカバー部2の間に生じた隙間11から付属体9を挿し込み、両面に亘って付属体9を収納しても良い。

【0022】このように構成された記録媒体ディスク収納体にCDやCD-ROMのようなディスク8を収納する際は、ディスク8の記録面を下にしてディスク密着保持層6上に載置する。ディスク密着保持層6は硬度20度から70度のシリコン樹脂によって形成し、弾性をもたせその表面は平滑に仕上げられており、鏡面に近い加工処理をしてある為、ディスク8の記録面のような平滑な面に対し真空吸着し、特に押し付けるようなことをしなくともすみやかに密着される。したがってディスク収納部5に特段の係合手段を形成する必要はなく、極めて薄いディスク収納体とすることが出来る。ディスク8を載置後、保護シート4とともに扉部10を閉じればディスクの収納は完了する。

【0023】この実施例では、扉部10とディスク収納部5の間に特別な開放防止手段を設けていないが、通常考えられる機械的なロック手段を端部側に形成しても良い。なお上記密着保持層19を図3に示すように保護シート4の及ばない位置にも積層すれば扉部10の内側とディスク収納部5は密着力を利用したロック手段が実現出来る。この方式であれば製作コストの低減や薄形化にさらに効果的である。

【0024】またこの場合は上記従来例で指摘したような扉部の内側との貼り付きが起こるわけであるが、従来の場合と異なり、ディスクが収納された状態とディスクが取り出された状態で密着面積が変わることがないので、開閉操作の違和感が生じることはない。

【0025】ディスク8とディスク密着保持層6の密着は真空吸着であるのでディスク8がずれる方向には極めて動きにくく、ディスク8がディスク収納部から離脱するおそれはほとんどない。ディスク8を取り出すにはディスク収納部5上のディスク8の端部側から剥がせば簡単に取り出すことが出来る。この密着力は両者の平滑状態を維持している間は低下することはないので繰り返し

着脱は行える。

【0026】なお基板1とカバー体2を可換性のある材質とすれば、基板1とカバー体2をめくるように変形できるのでディスク8の取り出しはさらに良好に行える。

【0027】ディスク8を取り出すと、ディスク密着保持層6の密着面は外部に露呈状態となるため、平滑面を有すカバー体2や付属体9が接触すると密着してしまう虞がある。本発明の場合、保護シート4が基板1に固定されているのでこの収納体をディスク8が収納されていない状態で閉じて密着面の直上には保護シート4が確実に位置するのでカバー体2や付属体9が密着する虞はない。

【0028】そしてこの実施例では、保護シート4の表面を密着低減処理しているのでこの保護シート4とディスク密着保持層6の密着面が密着することはない。

【0029】このように保護シート4の密着を防止した場合、再度ディスク8を密着面に密着させる際に保護シート4と密着面の貼り付きがないのでスムーズに密着面を露呈させることが出来る。

【0030】

【他の実施例】なお上記保護シート4の表面は、必ずしも密着低減処理させる必要はなく、通常の表面状態であってもカバー体2や付属体9の密着を防止する効果がある。

【0031】保護シート4の表面を平滑な面にすれば、ディスク密着保持層6の密着面はディスク8の信号記録面か保護シート4の表面のいずれかが常に密着することになり、密着面への埃の侵入や外力による傷つきなどを確実に防止できる効果がある。

【0032】この場合、保護シートが密着面に貼り付くことになるが、保護シート4の表面をディスク8の信号記録面と同等の表面状態にすれば、使用者にとってはディスクの着脱と同等な力で貼り付きを外せるのでそれほど違和感はなく、保護シートのこしが十分であれば作業性もあまり悪化しない。

【0033】図4はこの発明の他の実施例を示したものであり、基板21を谷折り部22を中心として二つ折りさせ、一方をディスク収納部23、他方を扉部24としたものである。

【0034】ディスク収納部23の表面には密着面26が形成されており、ディスクの信号記録面が密着自在である。扉部24のディスク収納部23との対抗面は密着低減処理されているので、ディスクが取り出され密着面が露呈した状態でも扉部24が密着することなく、ディスクが収納され密着面が隠れている状態とほぼ同様な開閉操作が実現できる。

【0035】この実施例の場合、基板21を例えば平滑性のない紙類や合成樹脂等とすれば、密着低減処理を別途施す必要がなく、単に一方側にディスク密着保持層を積層するだけで全体が完成し、更なる製作コスト削減が

可能となる。この際基板21の表面と、ディスク密着保持層の積層方法としては印刷方式が望ましい。

【0036】図5は更に他の実施例を示しており、密着低減処理をしていない基板31にディスク密着保持層37を積層し、ディスク収納部32とし、このディスク収納部32の密着面に接離自在となるように密着低減処理を施した保護シート33を取り付けたものである。このようにしても扉部34と密着面の密着は避けられ、付属体35の収納部36も保護シート33と扉部34の間に配置すれば密着の虞はない。付属体収納部36の形成位置としては上述の第一実施例の図2に示すように扉部に形成する他、この実施例に示すように保護シート33の裏面に直接設けても良い。

【0037】また扉部34をなくし、保護シート33を扉部と兼用しても良い。さらには図6に示すように扉部38を反対側の端部から延出させても良い。

【0038】図7は更なる他の実施例であり、記録媒体ディスク収納体の扉部41に付属体収納部42を設け、この付属体収納部42のディスク密着保持層43の密着面との対抗面側を密着低減処理したものである。

【0039】この場合は上記密着面が全て付属体収納部42により覆われる必要があるので、付属体収納部42を十分大きく形成しているが、密着面側の面積を小さくしても対応出来る。図7においてはディスクの形状に比べ上部を一部切り欠いた形状として、付属体収納部42からはみ出す部分の密着を防止している。

【0040】このように密着面の形状は略ドーナツ状である必要はなく、ディスクとの密着力が確保されるのであればディスク密着保持層45は、図8、図9のような形状であっても良い。このように密着面積を小さくすればディスクの着脱はより容易になる。

【0041】図10は本発明の請求項5に係る実施例であり、ディスク密着保持層53の積層されたディスク収納部51の裏側に付属体収納部52を設けたものである。

【0042】このように構成すると、付属体55と密着面が接触することはないが、したがって特段密着低減処理をせずとも付属体55とディスク密着保持層53の密着面との貼り付き等は確実に防止される。なお、扉部54と上記密着面の間は、開閉の都度密着することになるが、この実施例においては、この密着力を開放防止のロック手段として逆に利用している。したがって密着面の形状は、密着されるディスクの一部がはみ出す様な形状とし、ディスクの有無にかかわらず扉部が密着可能としている。

【0043】以上述べた実施例ではいずれも記録媒体ディスク収納体が二つ折りのタイプを示したが例えば図11に示すように、基板61をつづら折り状に形成したタイプのものであっても適用できることは言うまでもない。この場合ディスク密着保持層62の積層されたディ

スク収納部63と表面が密着低減処理された面64は交互に設けることになる。

【0041】

【発明の効果】以上述べてきたようにこの発明はディスク密着保持層を積層したディスク収納部を有す記録媒体ディスク収納体に、上記ディスク密着保持層の密着面と接離自在な保護シートを固定したので、ディスクを外した状態でも密着面を保護シートが覆うので、扉の内側や歌詞カードのような付属物が密着面に貼り付くことがなく、また保護シートと基板の位置関係はずれないので、相対的な位置ずれがなく、保護シートを閉じると確実に密着面を覆うことが出来、従来のような別体の剥離紙を使用するのに比べ格段に扱いやすく保護シートの紛失の虞もない、という作用効果を奏する。

【0045】なおこの保護シートは密着面との対向面側は平滑な面であれば、ディスクを外した時に保護シートと密着面が密着し、密着面への外部からの埃などの侵入防止に役立つ。そしてこの対向面側の平滑度をディスクの信号記録面と同様にすれば、密着面に対し剥がす操作感がディスクと保護シートで近似し、使用者に違和感がなくなる。さらには保護シートをこしのある厚みにすれば、密着面から剥がす際の貼りつき感が軽減される。

【0046】また上記保護シートの密着面との対向面側を密着低減処理すると、ディスクを外した時と、ディスクが密着している時で保護シートと密着面側の接離操作に違和感がなく、例えば再度ディスクを密着面に密着させる際に保護シートと密着面の貼り付きがないのでスムーズの密着面を露呈させることが出来る。

【0047】また請求項4にかかる発明は、上記保護シートの密着面との対向面の裏面または扉部に、ディスクの記録内容に関する情報が印刷された付属体の収納部を配置したので、歌詞カードのような付属体が密着面と貼り付き、破損するようなことを確実に防止出来る。

【0048】また請求項5にかかる発明では、基板に谷折り部を形成し、谷折り部を中心として折りたたみ自在とするとともに、上記基板の谷折り部を境にしていずれか一方にディスク密着保持層を積層しディスク収納部とし、他方に密着低減処理をしたので、扉の内側にディスク密着面が貼り付かない効果に加え、ディスク収納部と密着低減部が同一の基板で形成されるので、製作コストを大幅に削減出来るだけでなく、全体の形状を非常に薄

く軽いものとする事が出来る。

【0049】さらに請求項6にかかる発明では、少なくとも一面を密着低減処理した基板の該一面側に谷折り部を形成し、谷折り部を中心として折りたたみ自在とするとともに、上記基板の一面側の谷折り部を境にしていずれか一方にディスク密着保持層を積層しディスク収納部としたため、上記効果に加え更に、基板に対し一括して密着低減処理が可能で全体の製作工程を効率化することが可能となる。又素材的に密着性の低いものを用いれば単にディスク密着保持層を積層するのみで製品を完成させることが出来る。

【図面の簡単な説明】

【図1】この発明に係る記録媒体ディスク収納体の分解斜視図である。

【図2】この発明に係る記録媒体ディスク収納体の斜視図である。

【図3】この発明に係る記録媒体ディスク収納体の他の実施例を示す斜視図である。

【図4】この発明に係る記録媒体ディスク収納体の他の実施例を示す斜視図である。

【図5】この発明に係る記録媒体ディスク収納体の他の実施例を示す斜視図である。

【図6】この発明に係る記録媒体ディスク収納体の他の実施例を示す斜視図である。

【図7】この発明に係る記録媒体ディスク収納体の他の実施例を示す斜視図である。

【図8】この発明に係る記録媒体ディスク収納体の他の実施例を示す平面図である。

【図9】この発明に係る記録媒体ディスク収納体の他の実施例を示す平面図である。

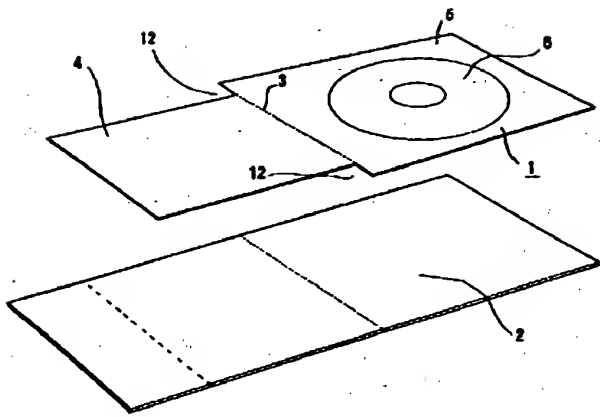
【図10】この発明に係る記録媒体ディスク収納体の他の実施例を示す斜視図である。

【図11】この発明に係る記録媒体ディスク収納体の他の実施例を示す斜視図である。

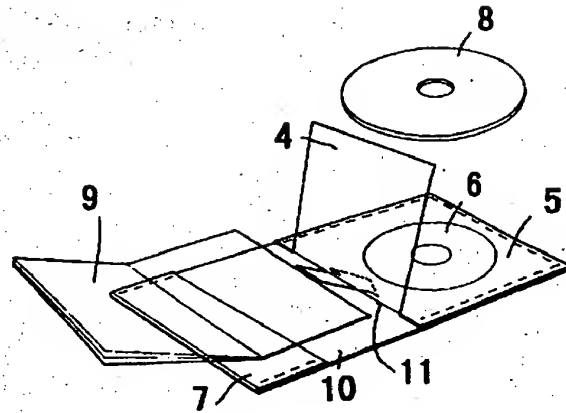
【符号の説明】

- 1・・・基板
- 2・・・カバー体
- 3・・・谷折り部
- 4・・・保護シート
- 5・・・ディスク収納部
- 6・・・ディスク密着保持層

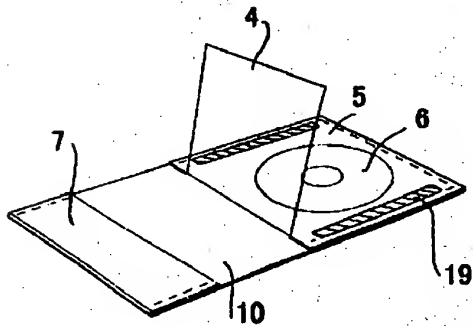
【図1】



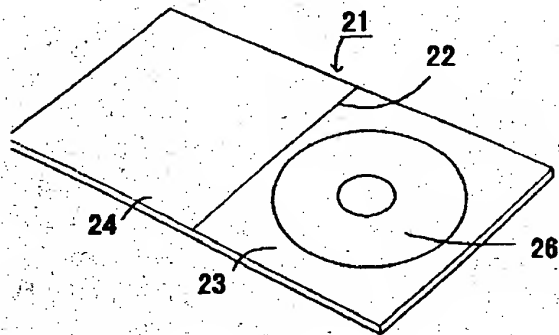
【図2】



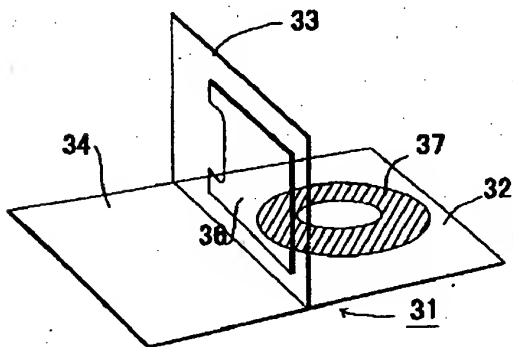
【図3】



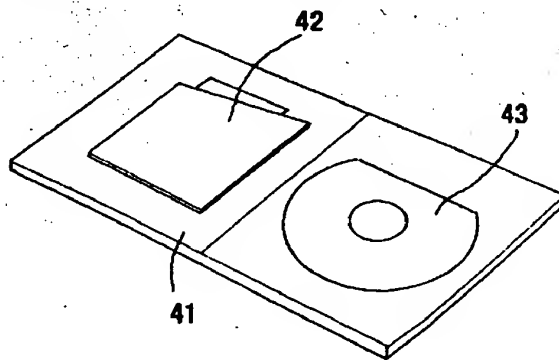
【図4】



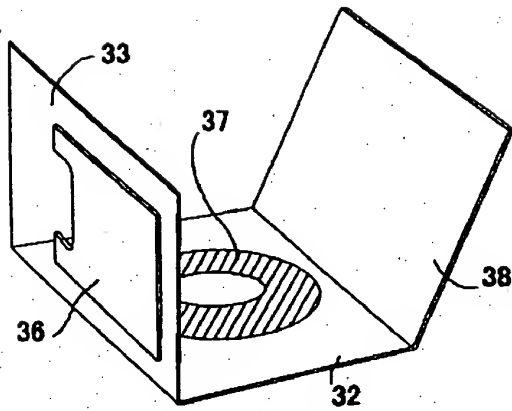
【図5】



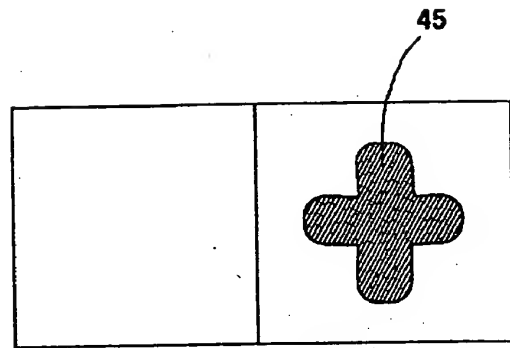
【図7】



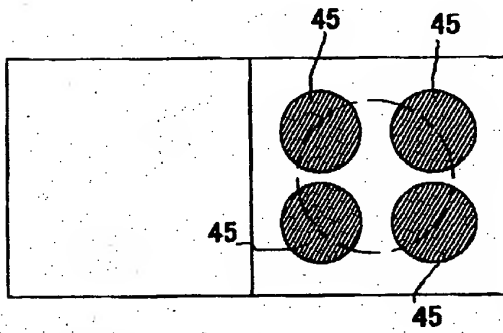
【図6】



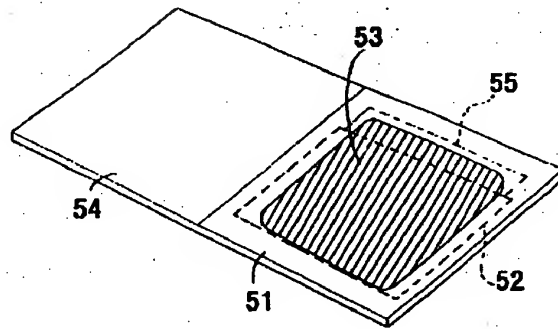
【図8】



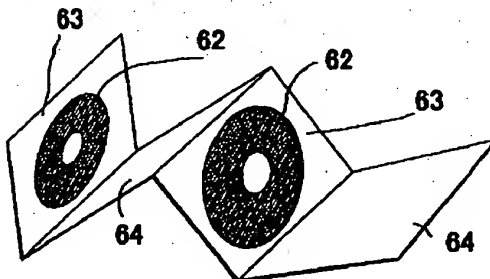
【図9】



【図10】



【図11】



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Recording Media Disc Housing Body

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(71) Patent Assignee: Aguri KK

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[Note: Names, addresses, company names and brand names are translated in the most common manner. Japanese language does not have singular or plural words unless otherwise specified by a numeral prefix or a general form of plurality suffix.]

(54) [Name of the Invention]

Recording Media Disc Housing Body

(57) [Abstract]

[Goal]

The goal of the present invention is to protect the adhesive part of the tightly holding type disc housing body.

[Structure]

On the recording medium disc housing body that has a disc housing part where a layer, which tightly holds a disc, has been layer laminated a freely attachable and detachable protective sheet is fixed on the adhesive surface of the above described layer which tightly holds the disc.

[Scope of the Claims]

[Claim 1]

Recording medium disc housing body characterized by the fact that on a recording medium housing body, where a door part and a disc housing part that has been layer laminated with a layer that tightly holds a magnetic disc can be freely opened and closed, a protective sheet is fixed that can be freely attached and detached from the adhesive surface of the above described layer that tightly holds a disc.

[Claim 2]

Recording medium disc housing body according to the Claim paragraph 1 characterized by the fact that the surface of the side that is opposite to the adhesive surface of the above described protective sheet is made to have the same smoothness (flatness) as that of the signal recording surface of the disc.

[Claim 3]

Recording medium disc housing body according to the Claim paragraph 1 characterized by the fact that the surface of the side opposite to the adhesive surface of the above described protective sheet is subjected to adhesion reducing treatment.

[Claim 4]

Recording medium disc housing body according to any of the Claim paragraphs 1 through 3, characterized by the fact that on the back surface of the surface facing the adhesive surface of the above described protective sheet or on the door part a part housing the attached printed information related to the recorded content of the disc is placed.

[Claim 5]

Recording medium disc housing body characterized by the fact that the disc housing part is made as on the substrate plate a valley fold part is formed, the valley fold part is made to be the center and the fold placement is made free, and as together with that on either one side a layer that tightly holds the disc is layer laminated and it is made to be the boundary of the valley fold part of the above described substrate plate, and on the other side an adhesion reducing treatment is conducted.

[Claim 6]

Recording medium disc housing body characterized by the fact that the disc housing part is made as on the adhesion reduction treated surface side of a substrate plate that has been subjected to that treatment on at least one of its surfaces, a valley fold part is formed, the valley fold part is made to be the center and the fold placement is made free, and as together with that on either one side a layer that tightly holds the disc is layer laminated and it is made to be the boundary of the valley fold part of the above described substrate plate, and on the other side an adhesion reducing treatment is conducted.

[Detailed Description of the Invention]

[0001]

[Technological Sphere Pertinent to the Invention]

The present invention is an invention that is related to a recording medium disc housing body that is appropriate for the sale and the storage of recording media discs like computer discs, mini discs, CD-ROM, DVD, laser discs etc.

[0002]

[Prior Art]

In the past, the computer discs etc., recording medium disc housing bodies have been formed from as to a main body manufactured from plastics through a hinge structure, a door has been connected so that it can freely move, and from a disc housing tray, which is contained inside the above described main body. On the inner side of the door a tab is formed so that data related to the music or information that is recorded on the housed media, for example, a card with the words of the song, etc., can be held.

[0003]

In the case of such housing container according to the previous technology, the disc holding part that is used to hold the disc is formed in the tray, and because of that this part of the main body becomes thick and this has been a drawback from the point of view of the portability and the storage properties. Then, in order to solve such a problem, the recording media disc housing body as shown according to the description reported in the Japanese Patent Application Laid Open Number Hei-Sei 10-35767, has been invented.

[0004]

[Problem Solved According to the Present Invention]

According to that previous technology invention, it is a housing body where instead of the above described disc holding part a the adhesive properties of silicone resin layer are advantageously used, and compared to the previous technology, it is a body that has the characteristics that it is light weight and it is said to be easy for handling. However, because of the use of the adhesive properties there has been the drawback that at the time when the disc is taken out this adhesive surface becomes exposed to the outside and if the housing body is closed in the state where there is no disc, the adhesive surface and the inner surface of the door are adhered and the opening and closing operations cannot be smoothly conducted.

[0005]

In order to solve this drawback according to the above described reference information, optionally, depending on the requirements, a release paper is adhered so that it can be freely attached and detached, however, the circumstances where this is required, the attaching and detaching of the release paper are extremely complicated, and also there is no space for the temporary storage of the release paper, and the losses are also extremely high.

[0006]

Also, if to the above described housing body attached materials such as the song word card etc., are also enclosed, the song word card and the exposed adhesive surface can be easily glued and depending on the case, it is also possible that the song word card be destroyed.

[0007]

[Goal of the Invention]

The present invention is an invention where in order to solve such problems on the recording medium disc housing body that has a disc housing part where a layer, which tightly holds the disc, has been layer laminated, a protective sheet is fixed, which can be freely attached and detached on the adhesive surface of the above described layer that tightly holds the disc.

[0008]

By doing this, even in the state when the disc is out, the adhesive surface is covered by the protective sheet and because of that there is no adhesion of the inner side of the door or of attached materials like the song word card etc., onto the adhesive surface. Also, the protective sheet and the substrate plate are unified as one body and because of that there is no deviation in their relative installation, and when the protective sheet is fastened, the adhesive surface can be reliably covered, and compared to the case such as those according to the previous technology where a separate release paper has been used, the handling is much easier and also there are no damages from the loss of the protective sheet. Then, because of this protective sheet it is also possible to eliminate the damage etc., that is caused by the adhesion of dust etc., onto the adhesive surface.

[0009]

Moreover, regarding this protective sheet, if the surface side that is opposite to the adhesive surface is made to be a smooth surface, at the time when the disc is out the protective sheet and the adhesive surface are adhered, and this serves to prevent the penetration of dust etc., from the outside to the adhesive surface. Then, if the degree of smoothness of this opposite surface side is made to be almost the same as that of the signal recording surface of the disc, the sensibility of the separation operation relative to the adhesive surface is very similar to that of the disc and the protective sheet, and there are no operator differences. Then, if the protective sheet is made to have a thickness for a certain stiffness, the sticky sensation at the time of the separation from the adhesive surface is reduced.

[0010]

Also, if the surface side facing the above described adhesive surface of the protective sheet is subjected to an adhesion reducing treatment, at the time when the disc is out and at the time when the disc is tightly held, there is no difference in the sensation in the attachment and detachment operations of the adhesive surface side and the protective sheet, and for example, at the time when again the disc is adhered onto the adhesive surface, there is no adhesion between the protective sheet and the adhesive sheet and because of that it is possible to expose a smooth adhesive surface.

[0011]

Also, regarding the invention according to Claim 4, on the back surface of the surface facing the adhesive surface of the above described protective sheet or on the door part, a part housing the attached body where information related to the recorded disc content has been printed, is placed, and because of that it is possible to reliably prevent the adhesion and the destruction of the attached materials such as song word cards etc., can be adhered to the adhesive surface.

[0012]

Also, according to the invention related to Claim 5, it is characterized by the fact that the disc housing part is made as on the substrate plate a valley fold part is formed, the valley fold part is made to be the center and the fold placement is made free, and as together with that on either one side a layer that tightly holds the disc is layer laminated and it is made to be the boundary of the valley fold part of the above described substrate plate, and on the other side an adhesion reducing treatment is conducted. If this is done, in addition to the result that there is no adhesion of the disc adhesive surface onto the inner side of the door, because of the fact that the disc housing part and the reduced adhesion part are formed by the same substrate plate, it is possible to largely reduce the manufacturing costs and not only that but also, it is possible to make the whole body shape extremely thin and light.

[0013]

Then, according to the invention related to the Claim 6, it is characterized by the fact that the disc housing part is made as on the adhesion reduction treated surface side of a substrate plate that has been subjected to that treatment on at least one of its surfaces, a valley fold part is formed, the valley fold part is made to be the center and the fold placement is made free, and as together with that on either one side a layer that tightly holds the disc is layer laminated and it is made to be the boundary of the valley fold part of the above described substrate plate, and on the other side an adhesion reducing treatment is conducted.

[0014]

If this is done, then in addition to the above described results, especially, relative to the substrate plate it becomes possible to conduct the adhesion reducing treatment in a lot, and because of that the whole body manufacturing technological process can be made more effective. Also, if a material that has lower adhesive properties itself is used, it is possible to completely form the manufactured product by simply layer laminating the layer that holds tightly the disc.

[0015]

[Practical Embodiment of the Present Invention]

Here below the practical implementation examples of the present invention will be explained based on figures. Figure 1 is a partial disassembly state three dimensional diagram of a disc housing body according to the present invention, the perimeter part of the support stand 1 and the cover part 2 are joined by adhesion means or bonding means, etc., and the formation is completed.

[0016]

Regarding the substrate plate 1, polypropylene, PET, polycarbonate, vinyl chloride, acrylic plate, ABS etc., synthetic resins or paper, wood, metal etc., materials are formed in a sheet shape and on the boundary of the center valley fold part 3, on one side the protective sheet 4 is placed and on the other side the structure of the disc housing part 5 is formed. According to this practical implementation example, the substrate plate 1 is manufactured from polypropylene, and the front surface is made to be a rough surface by blasting, embossing etc., methods, a treatment that lowers the adhesive properties is performed. Moreover, regarding the referred to according to this present invention adhesion reducing treatment, besides the treatments by post processing like the roughening of the front surface of the material, etc., also methods are included where materials with low adhesive properties are used as the original surface, etc.

[0017]

Also, according to this practical example, the whole body of the substrate plate is subjected to a single surface treatment and it is used as one material and because of that it is possible to lower the manufacturing costs, however, it is also a good option if only on the protective sheet 4 side an adhesion reducing treatment is performed. If this is done, the later described disc housing part 5 side layer lamination treatment can simply be conducted.

[0018]

On the surface of the disc housing part 5 side, a layer 6, which tightly holds the disc, and which is formed from a silicone resin layer with a smooth surface, is layer laminated in a donut shape that is slightly smaller than the outer shape of the disc, and through this surface adhesive force, the disc is adhered so that it can be freely attached and detached. According to this practical example, the substrate plate is made from a single material and with a single surface treatment, and because of that even on the disc housing part side the surface of the substrate material is in a state as it has been subjected to a surface roughening treatment, and due to that, in order to make the layer lamination of the layer 6, which tightly holds the disc, easy, a primer treatment can be conducted only at the location where the layer is laminated. Regarding this treatment, in more details, it is performed as the layer lamination location is treated with the primer, and it is homogeneously finished and a heat treatment or a natural drying is conducted.

[0019]

Regarding the protective sheet 4 side of the substrate plate 1, it is formed relatively narrow compared to the disc housing part 5 side with the provided up and down direction cut outs, and through these cut outs 12 the substrate plate 1 is joined with the cover part 2, and in the case of this joint, there is no hindrance relative to the protective sheet 4 and one lot becomes possible. (Illustrated in Figure 2.)

[0020]

On the door part 10 an attached material housing part 7 is formed that houses the attached materials 9, where the information related to the recorded content of the disc, such as song word card etc. It is a good option if this attached material housing part 7 is formed as the edge part of the cover body 2 is folded, and it is formed at the same time as the bonding of the substrate plate 1 and the cover body 2.

[0021]

Regarding the formed attached materials housing part 7, it is also a good option if the attached materials 9 are placed only on the side of the door part 10, however, as it is shown according to the presented in Figure 2, it is also a good option if the attached materials 9 are inserted in the gap between the substrate plate 1 and the cover body 2, and the attached materials 9 are placed temporarily on both surfaces.

[0022]

At the time when CD or CD-ROM etc., discs 8 are housed in a recording media disc housing body with such a structure, the recording surface of the disc 8 is made to be the bottom surface and it is placed on the layer 6 that tightly holds the disc. The layer 6 that tightly holds the disc is formed from a silicone resin material that has a hardness that is in the range of 20 ~ 70 degrees, and based on its elastic properties, its surface is smoothly finished, and a processing treatment that is close to a mirror surface is conducted and because of that relative to a smooth surface such as the recording surface of the disc, an easy adhesion is possible by only using vacuum adhesion, and especially, by only pressing. Consequently, for the disc housing part 5 specific difficult measures for formation are not required, and it is possible to form an extremely thin disc housing body. If the disc 8 is placed and after that together with the protective sheet 4 the door part 4 is closed the disc housing is completed.

[0023]

Regarding this practical example, between the door part 10 and the disc housing part 5 specific opening prevention means are not installed, however, if the usually considered mechanical lock means are also formed at the edge it is also a good option. Moreover, even if the above described adhesive holding layer 19, as shown according to the presented in Figure 3, is layer laminated in a position that does not have the protective sheet 4, a locking means is practically realized by the use of the adhesive force between

the inner side of the door part 10 and the disc housing part 5. If this method is used, it is even further effective for the reduction of the manufacturing costs and for achieving a thinner shape.

[0024]

Also, in this case, an adhesion of the inner side of the door part occurs such as that indicated according to the above described previous technology example, however, it becomes different from the case according to the previous technology because of the fact that since there is no change in the adhesion surface area in the state where the disc is being housed and in the state where the disc has been taken out, there is no generation of a different sensations in the opening and closing operations.

[0025]

Regarding the adhesion of the disc 8 and the layer 6, which tightly holds the disc, because of the fact that it is accomplished through vacuum adhesion, it is extremely difficult to move the disc 8 in any direction, and there is almost no risk that the disc 8 could be separated from the disc housing part. In order to take the disc 8 out, this is simply accomplished if it is separated from the edge part side of the disc 8 on the top of the disc housing part 5. Regarding this adhesive force, because of the fact that the smoothness state of both surfaces is maintained and there is no decrease, repeated attachment and detachment are possible.

[0026]

Moreover, if the substrate plate 1 and the cover body 2 are made from flexible materials, the substrate plate 1 and the cover body 2 can be deformed so that they are separated and because of that the taking out of the disc 8 can be conducted even more easily.

[0027]

If the disc 8 is taken out, the adhesive surface of the layer 6 that tightly holds the disc becomes in a state that is exposed to the outside, and because of that, if it comes in contact with the smooth surface possessing cover body 2 or with the attached materials 9, there is the danger that it would adhere. In the case according to the present invention, the protective sheet 4 is fixed on the substrate plate 1 and because of that even in the case of the state where the disc 8 is not housed in this housing body and it is closed, the protective sheet 4 is reliably and directly placed on the adhesive surface and because of that there is no danger that the cover body 2 or the attached materials 9 would be adhered.

[0028]

Then according to these practical examples, the surface of the protective sheet has been subjected to an adhesion reducing treatment and because of that there is no adhesion

between this protective sheet 4 and the adhesive surface of the layer 6, that tightly holds the disc.

[0029]

This way, in the case when the adhesion of the protective sheet 4 is prevented, at the time when again the disc 8 is adhered onto the adhesive surface, there is no adhesion between the protective sheet 4 and the adhesive surface, and because of that it is possible to smoothly expose the adhesive surface.

[0030]

[Another Practical Example]

Moreover, regarding the surface of the above described protective sheet 4, it is not necessary that it be subjected to an adhesion reducing treatment, and even if it is in its usual surface state, there is the result that the adhesion of the cover part or the attached materials, is prevented.

[0031]

If the surface of the protective sheet 4 is made to be a smooth surface, the adhesive surface of the layer 6, that tightly holds the disc, usually becomes adhered to either the signal recording surface of the disc 8 or the surface of the protective sheet, and as a result it is possible to reliably eliminate the penetration of dust towards the adhesive surface or the damage from external forces, etc.

[0032]

In this case, the protective sheet becomes tightly adhered onto the adhesive surface, however, if the surface of the protective sheet 4 is made to be in the same surface state as the signal recording surface of the disc 8, the disc is adhered by the same force by different users and there is no difference in the sensation when taken out, and if the stiffness of the protective sheet is sufficient, the operational properties are also not deteriorated.

[0033]

Figure 4 is a figure that shows another practical implementation example according to the present invention, where the substrate plate 21 is folded in two using as a center the valley folding part 22, and on one side the disc housing part 23 is made and on the other side the door part 24 is made.

[0034]

On the surface of the disc housing part 23 the adhesive surface 26 is formed and the disc signal recording surface is freely attached. The surface of the door part 24 that is opposite to the disc housing part 23 has been subjected to an adhesion reducing treatment and because of that even in the state where the adhesive surface when the disc has been taken out is in an exposed state, there is no adhesion of the door part 24, and it is possible to realize the opening and closing operations almost the same way as in the case when the disc is covering the housing adhesive surface.

[0035]

In the case of this practical example, if the substrate plate 21 is made from, for example, a rough paper type material or synthetic resin etc., conducting a separate adhesion reducing treatment is not necessary, and especially, by only layer laminating a layer that tightly holds the disc on one side, the whole body is completed, and especially, it becomes possible to reduce the manufacturing costs. As a method for the layer lamination of the layer that holds tightly the disc and the substrate plate 21 at this time, the printing method is preferred.

[0036]

Figure 5 is a diagram that especially represents another practical implementation example, and it is a case where on the substrate plate 31, that has not been subjected to an adhesion reducing treatment, the layer 37 that tightly holds the disc, is layer laminated, and this is made to be the disc housing part 32, and on the adhesive surface of the this disc housing part 32 the protective sheet 33, which has been subjected to an adhesion reducing treatment, is adhered so that it can be freely attached and detached. Even when this is done, the adhesion between the door part 34 and the adhesive surface is prevented, and even if the housing part 36 for the attached materials 35 is placed in the space between the protective sheet 33 and the door part 34, there is no danger of adhesion. As the formation and placement of the attached materials housing part 36, besides the shown according to the Figure 2, which presents the above described first Practical Example, formation on the door part, as it is shown according to this practical example, it is also a good option if it is directly attached on the back surface of the protective sheet 33.

[0037]

Also, it is a good option if there is no door part 34 and the protective sheet 33 is also used as the door part. Then, as it is shown according to the presented in Figure 6, it is also a good option if the door part 38 is extended from the edge part of the opposite side.

[0038]

Figure 7 is yet another practical implementation example, and it is a case where the attached materials housing part 42 is provided on the door part 41 of the recording media disc housing body, and the surface side of this attached materials housing part 42 that is

opposite to the adhesive surface of the layer 43 that tightly holds the disc has been subjected to an adhesion reducing treatment.

[0039]

In this case, it is necessary that the above described adhesive surface be completely covered by the attached materials housing part 42, and because of that the attached materials housing part 42 is made to be sufficiently large, however, even if the surface area of the adhesive surface side is small, it is possible to respond. In the case according to Figure 7, compared to the shape of the disc, the top part is made into a shape that is partially cut out, and the adhesion of the part of the attached materials housing part 42 that sticks out, is prevented.

[0040]

This way, it is not necessary that the shape of the adhesive surface be approximately a donut shape, and as long as the adhesive force relative to the disc provides for a reliable hold, the layer 45 that tightly holds the disc, can also have the shapes that are shown according to the presented in Figure 8 and Figure 9, and these are also good options. This way, if the area of the adhesive surface is small, the disc attachment and detachment becomes even easier.

[0041]

Figure 10 is a practical implementation example that is related to the claim paragraph 5 of the present invention, and it is a case where attached materials housing part 52 is provided on the back side of the disc housing part 51 where a layer 53 tightly holding a disc has been layer laminated.

[0042]

If such a structure is made, there is no contact obtained between the attached materials 55 and the adhesive surface, and consequently, even if there is no specific adhesion reducing treatment, the adhesion etc., between the attached materials 55 and the adhesive surface of the layer 53 that tightly holds the disc, can be reliably prevented. Moreover, in the space between the door part 54 and the above described adhesive surface, any time when there is opening and closing these become adhered, however, according to this practical implementation example, this adhesive force is on the contrary used as a locking method to prevent the opening. Consequently, regarding the state of the adhesive surface, the shape is formed so that one part of the adhered disc is protruding, and irrespective of whether or not the disc is present the door part can be adhered.

[0043]

In the case of any of the above described practical implementation examples, a recording medium disc housing body of the two-folded type has been shown, however, for

example, as it is shown according to the presented in Figure 11, even if the substrate plate 61 is of the type that has been formed in multiple folds, it can be appropriately used and it can be said that there is no difference. In this case, the disc housing part 63 that has been layer laminated by the layer 62 that tightly holds the disc and the surface 64, which has been subjected to an adhesion reducing treatment, are alternately provided.

[0044]

[Results From the Present Invention]

As it has been described above, the following effects are achieved: in the case according to the present invention on the recording medium disc housing body, which has a disc housing part that is layer laminated with a layer that tightly holds the disc, a protective sheet is fixed so that the adhesive surface of the above described layer tightly holding the disc can be freely attached and detached, and because of that even in the state when the disc is outside, the adhesive surface is covered by the protective sheet and due to that, there is no adhesion of the inner side of the door or of the song word card etc., attached materials to the adhesive surface, and also, there is no deviation in the positional relationship of the protective sheet and the substrate plate, and because of that there is no relative position deviation, and when the protective sheet is fastened the adhesive surface can be reliably covered, and compared to the cases according to the present invention where separate release paper has been used, the handling is much easier and also there is no danger of protective sheet loss.

[0045]

Moreover, if this protective sheet has a smooth surface on the surface side that is opposite to the adhesive surface, at the time when the disc is out, the protective sheet and the adhesive surfaces are adhered, and this serves to prevent the penetration of dust etc., from the outside to the adhesive surface. Then, if the smoothness level of this opposite facing surface side is made to be almost the same as that of the disc signal recording surface, the sensation of the operation of the separation relative to the adhesive surface is very similar to that between the disc and the protective sheet, and it becomes a case where there are no operator differences. Then, if the protective sheet is made to have a thickness that provides stiffness, the sticky sensation at the time of the separation from the adhesive surface is decreased.

[0046]

Also, if the surface side that is facing the adhesive surface of the above described protective sheet is subjected to an adhesion reducing treatment, at the time when the disc is out and at the time when the disc is adhered there is no difference in the sensation of the attachment and detachment operations between the protective sheet and the adhesive surface, and for example, at the time when again the disc 8 is adhered on the adhesive surface, there is no adhesion between the protective sheet and the adhesive surface and because of that it is possible to smoothly expose the adhesive surface.

[0047]

Also, in the case according to the invention of the Claim 4 of the present invention, on the back surface of the surface opposite to the adhesive surface of the above described protective sheet or on the door part, a housing part is attached, which houses the attached materials with the printed information related to the disc recording content, and because of that it is possible to reliably prevent the adhesion and destruction of song word cards etc., attached materials on the adhesive surface.

[0048]

Also, according to the invention of the Claim 5 of the present invention, the disc housing part is made as on the substrate plate a valley fold part is formed, the valley fold part is made to be the center and the fold placement is made free, and as together with that on either one side a layer that tightly holds the disc is layer laminated and it is made to be the boundary of the valley fold part of the above described substrate plate, and on the other side an adhesion reducing treatment is conducted; and because of that in addition to the result where there is no adhesion of the disc adhesive surface on the inner side of the door, because of the fact that the disc housing part and the reduced adhesion part are formed from the same substrate plate, it is not only possible to significantly reduce the manufacturing costs, but also, it is possible to obtain an item where the shape of the whole body is extremely thin.

[0049]

Then, according to the invention of the Claim 6 of the present invention the disc housing part is made as on the adhesion reduction treated surface side of a substrate plate that has been subjected to that treatment on at least one of its surfaces, a valley fold part is formed, the valley fold part is made to be the center and the fold placement is made free, and as together with that on either one side a layer that tightly holds the disc is layer laminated and it is made to be the boundary of the valley fold part of the above described substrate plate, and on the other side an adhesion reducing treatment is conducted; and because of that in addition to the above described results, especially, it becomes possible to conduct the adhesion reducing treatment relative to the substrate plate as a batch process, and it becomes possible to make the whole body manufacturing technological process more efficient. Also, if a material is used that as a material has lower adhesive properties, it is possible to complete the manufactured product by only simply laminating a layer that tightly holds the disc.

[Brief Explanation of the Figures]

[Figure 1]

Figure 1 represents a disassembled state three-dimensional diagram of a recording media disc housing body according to the present invention.

[Figure 2]

Figure 2 represents a three dimensional diagram of a recording media disc housing body according to the present invention.

[Figure 3]

Figure 3 represents a three dimensional diagram of another practical example of a recording media disc housing body according to the present invention.

[Figure 4]

Figure 4 represents a three dimensional diagram of another practical example of a recording media disc housing body according to the present invention.

[Figure 5]

Figure 5 represents a three dimensional diagram of another practical example of a recording media disc housing body according to the present invention.

[Figure 6]

Figure 6 represents a three dimensional diagram of another practical example of a recording media disc housing body according to the present invention.

[Figure 7]

Figure 7 represents a three dimensional diagram of another practical example of a recording media disc housing body according to the present invention.

[Figure 8]

Figure 8 represents a three dimensional diagram of another practical example of a recording media disc housing body according to the present invention.

[Figure 9]

Figure 9 represents a three dimensional diagram of another practical example of a recording media disc housing body according to the present invention.

[Figure 10]

Figure 10 represents a three dimensional diagram of another practical example of a recording media disc housing body according to the present invention.

[Figure 11]

Figure 11 represents a three dimensional diagram of another practical example of a recording media disc housing body according to the present invention.

[Explanation of the Symbols]

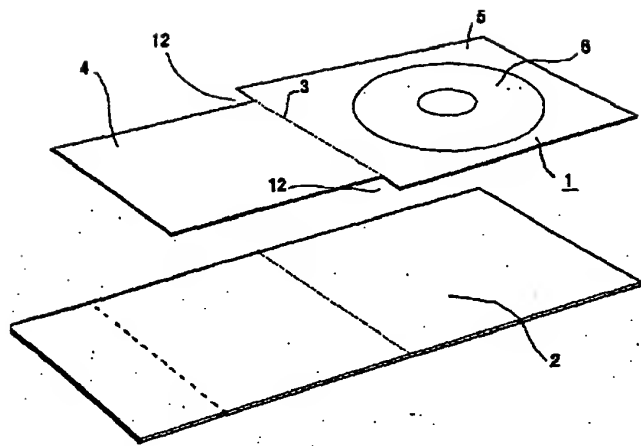
- 1.....substrate plate
- 2.....cover body
- 3.....valley folding part
- 4.....protective sheet
- 5.....disc housing part
- 6.....layer that tightly holds the disc

Patent Assignee: Aguri KK

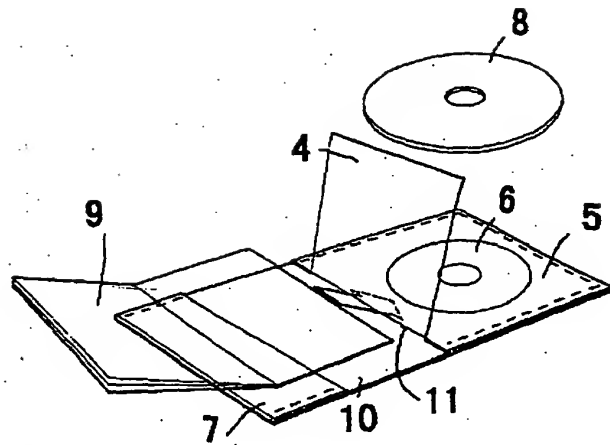
Translated by Albena Blagev ((651) 735-1461 (h), (651) 704-7946 (w))

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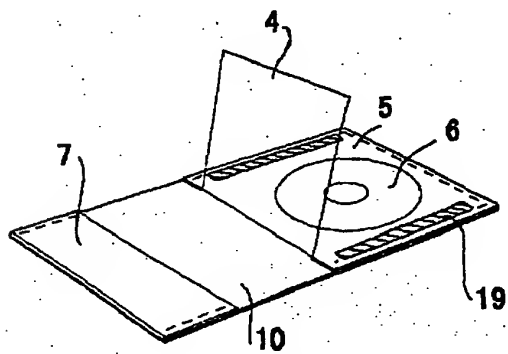
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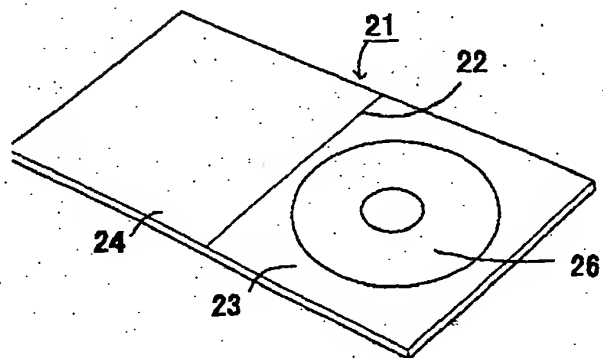
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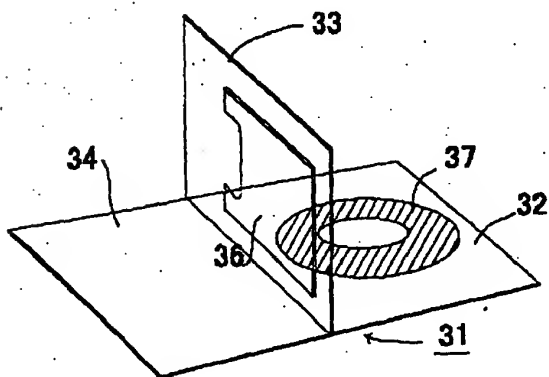
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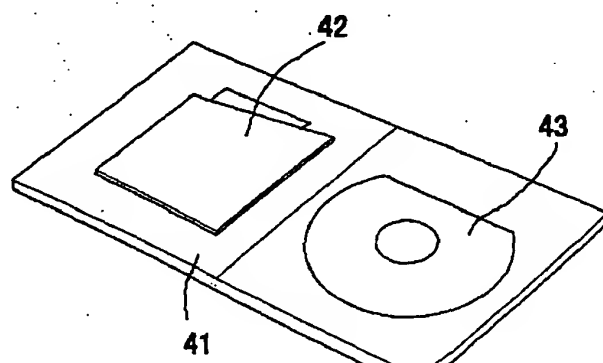
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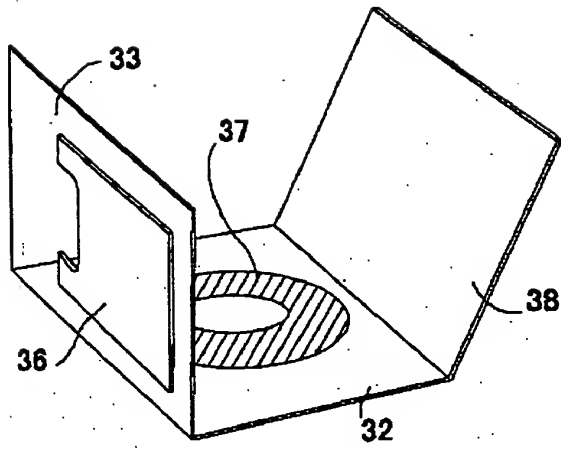
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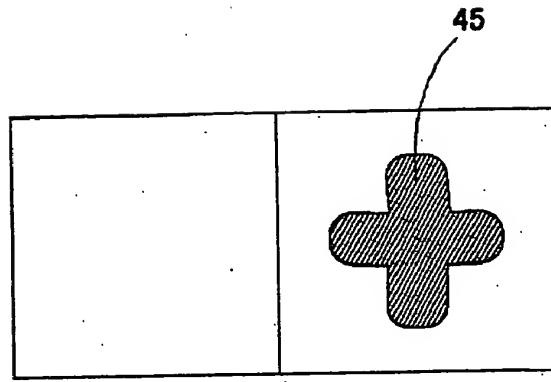
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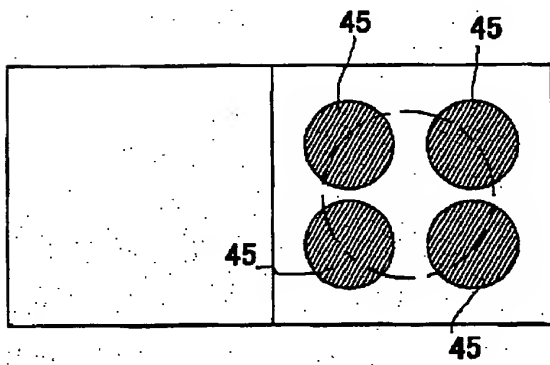
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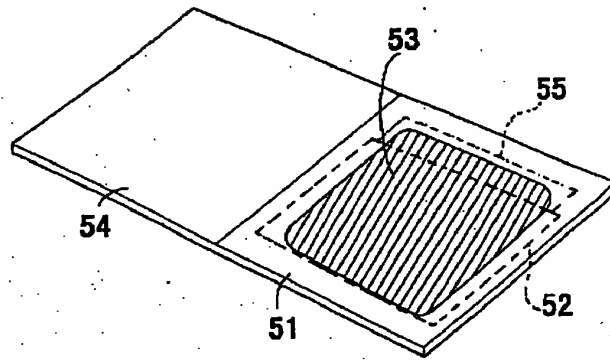
【図8】



【図9】



【図10】



【図11】

